AspenDocs 1.0

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Virtual Temperature

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Description

Calculate the virtual temperature $T_v(K)$ from temperature T(C), pressure P(mb) and relative humidity rh(%). $E_{sw}(P,T)$ (/aspendocs/form_esw_hardy.html) is the Hardy equation for saturation vapor pressure.

Used in Aspen starting with V3.4.5.

Formula

$$T_v = rac{T + 273.15}{1 - h2omr*(1 - \eta)}$$

where:

$$h2omr = rac{e}{P-e} \ e = E_{sw} * (rac{rh}{100}) \ mh2o$$

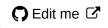
$$\eta = rac{mh2o}{mdry}$$

$$mh2o = 18.105(g)$$

$$mdry = 28.966(g)$$

Source

Wikipedia 🗹



Tags: formulas (tag_formulas.html)



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